

## **ABSTRACT**

### **PHASE SHIFT DEVICE IN SUPERCONDUCTOR LOGIC**

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In accordance with the present invention, a superconducting phase shift device is presented. The phase shift device can introduce a phase shift between the phases of the order parameters of the device's two terminals. The two terminals can be coupled through an anisotropic superconductor with angled sides, or through two anisotropic superconductors with misaligned phases, or through a ferromagnet in the junction area. The phase shift device can be used in superconducting quantum computing circuitry. A method of fabricating the phase shift device with a technology different from fabrication technology of conventional superconducting materials is described. A method for fabricating a phase shifter chip including an array of phase shift devices is described.